1. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{1950}{10}} + \sqrt{182}i$$

   A. Not a Complex Number

   B. Nonreal Complex

   C. Rational

   D. Pure Imaginary

   E. Irrational

---

2. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{21}{0}}$$

   A. Rational

   B. Irrational

   C. Not a Real number

   D. Integer

   E. Whole

---

3. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{484}{169}}$$

   A. Rational

   B. Not a Real number

   C. Irrational

   D. Integer

   E. Whole

4. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{27 - 22i}{-1 - 7i}$$

A. $a \in [-27.5, -26.5]$ and $b \in [2.5, 4]$

B. $a \in [-4.5, -3]$ and $b \in [-4, -3]$

C. $a \in [1, 3.5]$ and $b \in [4, 5.5]$

D. $a \in [126.5, 128.5]$ and $b \in [4, 5.5]$

E. $a \in [1, 3.5]$ and $b \in [210.5, 211.5]$

5. Simplify the expression below and choose the interval the simplification is contained within.

$$11 - 16^2 + 12 \div 14 * 7 \div 4$$

A. $[268.3, 269.8]$

B. $[264.2, 267.3]$

C. $[-243.8, -241.2]$

D. $[-246.8, -244.4]$

E. None of the above

6. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-27 - 55i}{4 + i}$$

A. $a \in [-11, -9]$ and $b \in [-194, -191]$

B. $a \in [-11, -9]$ and $b \in [-12, -10.5]$

C. $a \in [-3.5, -2]$ and $b \in [-16.5, -14]$

    D. $a \in [-163.5, -162.5]$ and $b \in [-12, -10.5]$

    E. $a \in [-7, -6]$ and $b \in [-56, -54]$

---

7. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{64}{625}} + 64i^2$$

    A. Irrational

    B. Pure Imaginary

    C. Nonreal Complex

    D. Not a Complex Number

    E. Rational

---

8. Simplify the expression below and choose the interval the simplification is contained within.

$$3 - 10^2 + 1 \div 20 * 15 \div 18$$

    A. $[103.02, 103.06]$

    B. $[102.99, 103.01]$

    C. $[-96.98, -96.94]$

    D. $[-97.01, -96.99]$

    E. None of the above

---

9. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(8 - 10i)(6 - 5i)$$

    A. $a \in [-2, 1]$ and $b \in [94, 105]$

    B. $a \in [95, 100]$ and $b \in [20, 22]$

C. $a \in [-2, 1]$ and $b \in [-102, -98]$

D. $a \in [95, 100]$ and $b \in [-23, -14]$

E. $a \in [46, 49]$ and $b \in [45, 53]$

---

10. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-2 + 10i)(-9 + 6i)$$

A. $a \in [-44, -38]$ and $b \in [-105, -101]$

B. $a \in [-44, -38]$ and $b \in [99, 103]$

C. $a \in [16, 25]$ and $b \in [58, 61]$

D. $a \in [78, 84]$ and $b \in [-84, -75]$

E. $a \in [78, 84]$ and $b \in [78, 83]$

---

11. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{1050}{0}} + \sqrt{210}i$$

A. Not a Complex Number

B. Rational

C. Irrational

D. Pure Imaginary

E. Nonreal Complex

---

12. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{93636}{324}}$$

A. Whole

B. Irrational

C. Rational

D. Not a Real number

E. Integer

13. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{193600}{400}}$$

A. Not a Real number

B. Rational

C. Irrational

D. Integer

E. Whole

14. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{63 - 55i}{3 + 2i}$$

A. $a \in [5.5, 7]$ and $b \in [-23.5, -21]$

B. $a \in [19.5, 22.5]$ and $b \in [-28.5, -26.5]$

C. $a \in [5.5, 7]$ and $b \in [-293, -290.5]$

D. $a \in [22, 24]$ and $b \in [-3.5, -2.5]$

E. $a \in [78, 80.5]$ and $b \in [-23.5, -21]$

15. Simplify the expression below and choose the interval the simplification is contained within.

$$12 - 5^2 + 17 \div 16 * 4 \div 20$$

A. $[-12.81, -12.66]$

B. $[37, 37.09]$

C. $[-13.16, -12.83]$

D. $[37.09, 37.36]$

E. None of the above

---

16. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{72 + 66i}{-7 - i}$$

A. $a \in [-9.5, -8]$ and $b \in [-12, -9]$

B. $a \in [-12, -10.5]$ and $b \in [-390.5, -389]$

C. $a \in [-571, -569.5]$ and $b \in [-8, -7]$

D. $a \in [-12, -10.5]$ and $b \in [-8, -7]$

E. $a \in [-11, -9]$ and $b \in [-68, -65.5]$

---

17. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{2057}{11}} + \sqrt{110}i$$

A. Pure Imaginary

B. Irrational

C. Rational

D. Nonreal Complex

E. Not a Complex Number

---

18. Simplify the expression below and choose the interval the simplification is contained within.

$$19 - 4^2 + 9 \div 3 * 17 \div 16$$

A. $[33.42, 35.53]$

B. $[2.16, 5.17]$

C. $[5.8, 7.07]$

D. $[37.78, 38.61]$

E. None of the above

---

19. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-5 + 10i)(-9 - 2i)$$

A. $a \in [23, 27]$ and $b \in [-103, -98]$

B. $a \in [45, 46]$ and $b \in [-20, -19]$

C. $a \in [23, 27]$ and $b \in [93, 104]$

D. $a \in [64, 66]$ and $b \in [78, 86]$

E. $a \in [64, 66]$ and $b \in [-89, -79]$

---

20. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-6 - 2i)(4 + 9i)$$

A. $a \in [-42, -38]$ and $b \in [42, 47]$

B. $a \in [-27, -22]$ and $b \in [-20, -17]$

C. $a \in [-11, -3]$ and $b \in [59, 64]$

D. $a \in [-11, -3]$ and $b \in [-64, -59]$

E. $a \in [-42, -38]$ and $b \in [-47, -42]$

21. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-605}{11}} + \sqrt{0}i$$

   A. Not a Complex Number

   B. Irrational

   C. Nonreal Complex

   D. Pure Imaginary

   E. Rational

22. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{100}{529}}$$

   A. Rational

   B. Not a Real number

   C. Integer

   D. Whole

   E. Irrational

23. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{25}{361}}$$

   A. Irrational

   B. Not a Real number

   C. Integer

   D. Rational

E. Whole

---

24. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-9 + 66i}{-3 - 8i}$$

A. $a \in [-7, -6.5]$ and $b \in [-270.5, -269.5]$

B. $a \in [7, 8]$ and $b \in [-3, -0.5]$

C. $a \in [-7, -6.5]$ and $b \in [-5, -2.5]$

D. $a \in [-502, -500.5]$ and $b \in [-5, -2.5]$

E. $a \in [1.5, 4.5]$ and $b \in [-9, -8]$

---

25. Simplify the expression below and choose the interval the simplification is contained within.

$$4 - 7 \div 17 * 2 - (6 * 19)$$

A. $[-53.69, -53.25]$

B. $[-111.58, -110.57]$

C. $[-110.65, -109.21]$

D. $[117.44, 117.85]$

E. None of the above

---

26. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{27 - 77i}{6 - 5i}$$

A. $a \in [3.5, 5]$ and $b \in [15, 16.5]$

B. $a \in [546, 547.5]$ and $b \in [-6.5, -5]$

C. $a \in [-4, -3]$ and $b \in [-11, -9.5]$

D. $a \in [7.5, 9.5]$ and $b \in [-328.5, -326.5]$

E. $a \in [7.5, 9.5]$ and $b \in [-6.5, -5]$

---

27. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-567}{9}} + \sqrt{0}i$$

A. Not a Complex Number

B. Nonreal Complex

C. Irrational

D. Pure Imaginary

E. Rational

---

28. Simplify the expression below and choose the interval the simplification is contained within.

$$1 - 19 \div 20 * 13 - (16 * 2)$$

A. $[-34.07, -25.07]$

B. $[30.93, 34.93]$

C. $[-57.7, -48.7]$

D. $[-49.35, -36.35]$

E. None of the above

---

29. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(7 - 3i)(-5 - 2i)$$

A. $a \in [-42, -36]$ and $b \in [-1.04, -0.04]$

    B. $a \in [-33, -27]$ and $b \in [27.6, 29.73]$

    C. $a \in [-42, -36]$ and $b \in [0.39, 2.65]$

    D. $a \in [-37, -32]$ and $b \in [4.68, 7.26]$

    E. $a \in [-33, -27]$ and $b \in [-29.61, -28.87]$

---

30. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-8 - 10i)(9 + 5i)$$

    A. $a \in [-23, -17]$ and $b \in [-132, -123]$

    B. $a \in [-75, -64]$ and $b \in [-55, -49]$

    C. $a \in [-23, -17]$ and $b \in [127, 131]$

    D. $a \in [-123, -118]$ and $b \in [45, 51]$

    E. $a \in [-123, -118]$ and $b \in [-55, -49]$